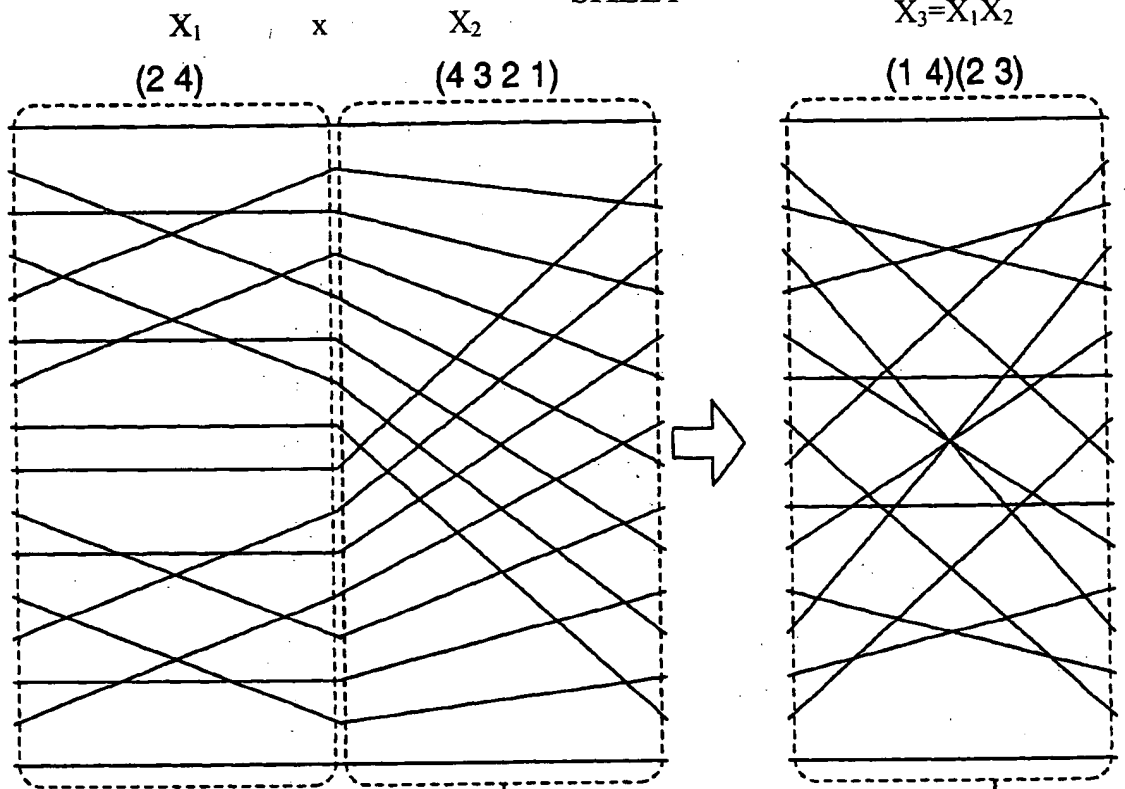


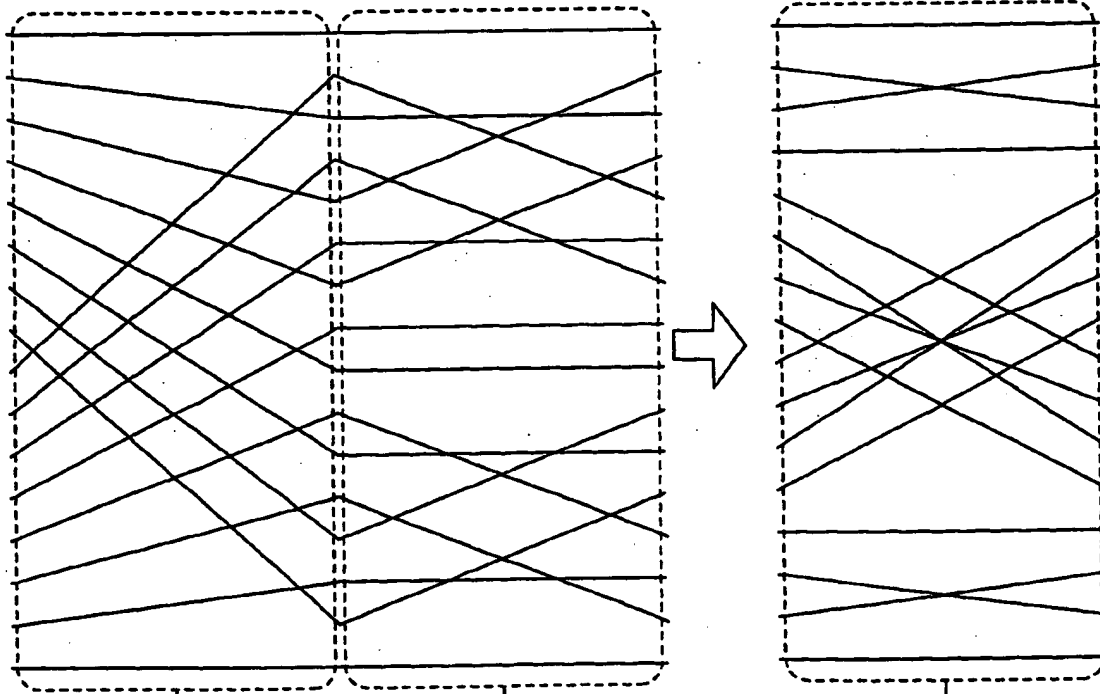


09882761-061501  
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# REPLACEMENT SHEET



691 Exchange  $X_2$       692 Exchange  $X_1$       FIG. 6E      693 Exchange  $X_4 = X_2 X_1$   
(4 3 2 1)      (2 4)      (4 3)(2 1)



692 Exchange      691 Exchange      FIG. 6F      694 Exchange

# REPLACEMENT SHEET

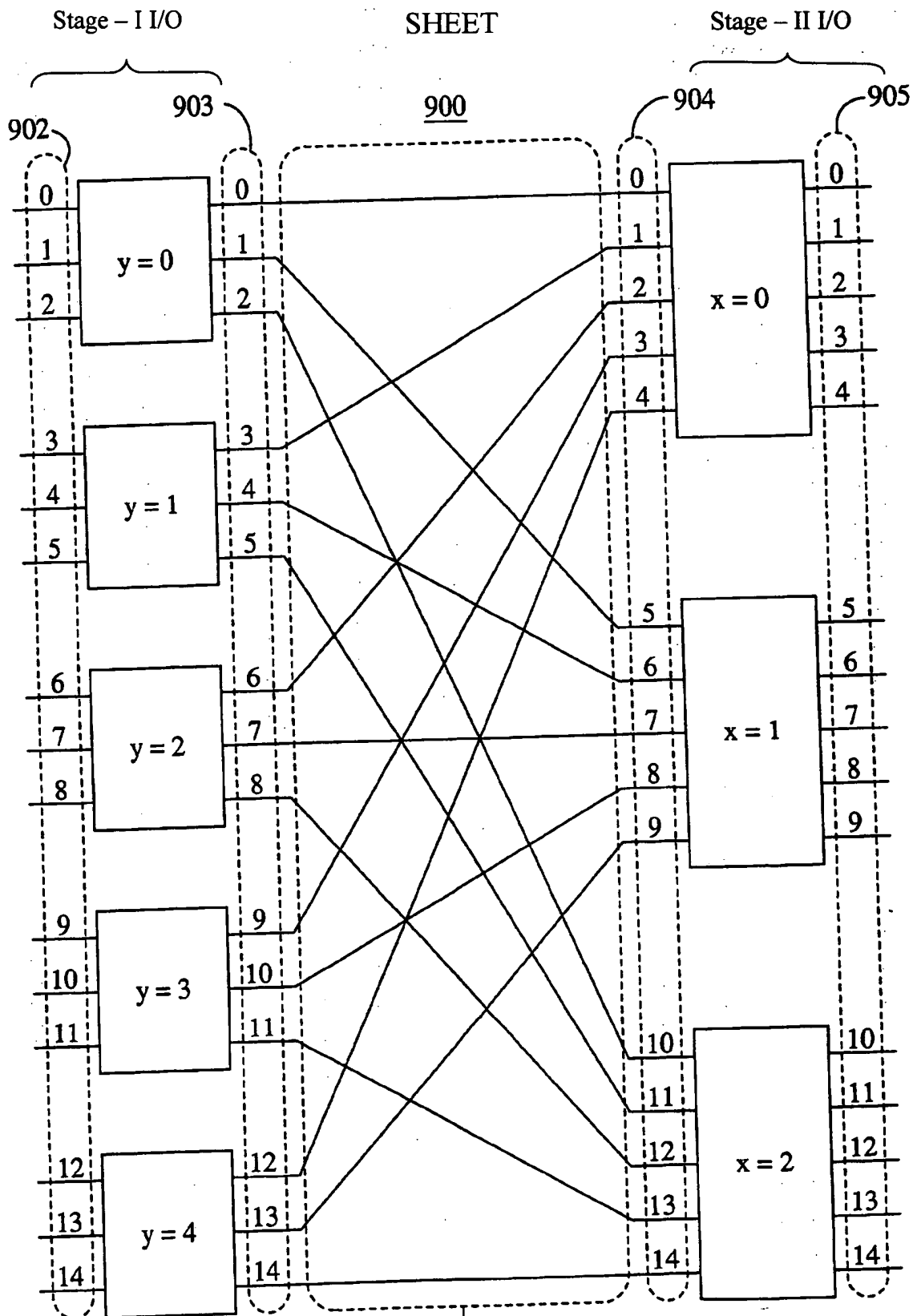
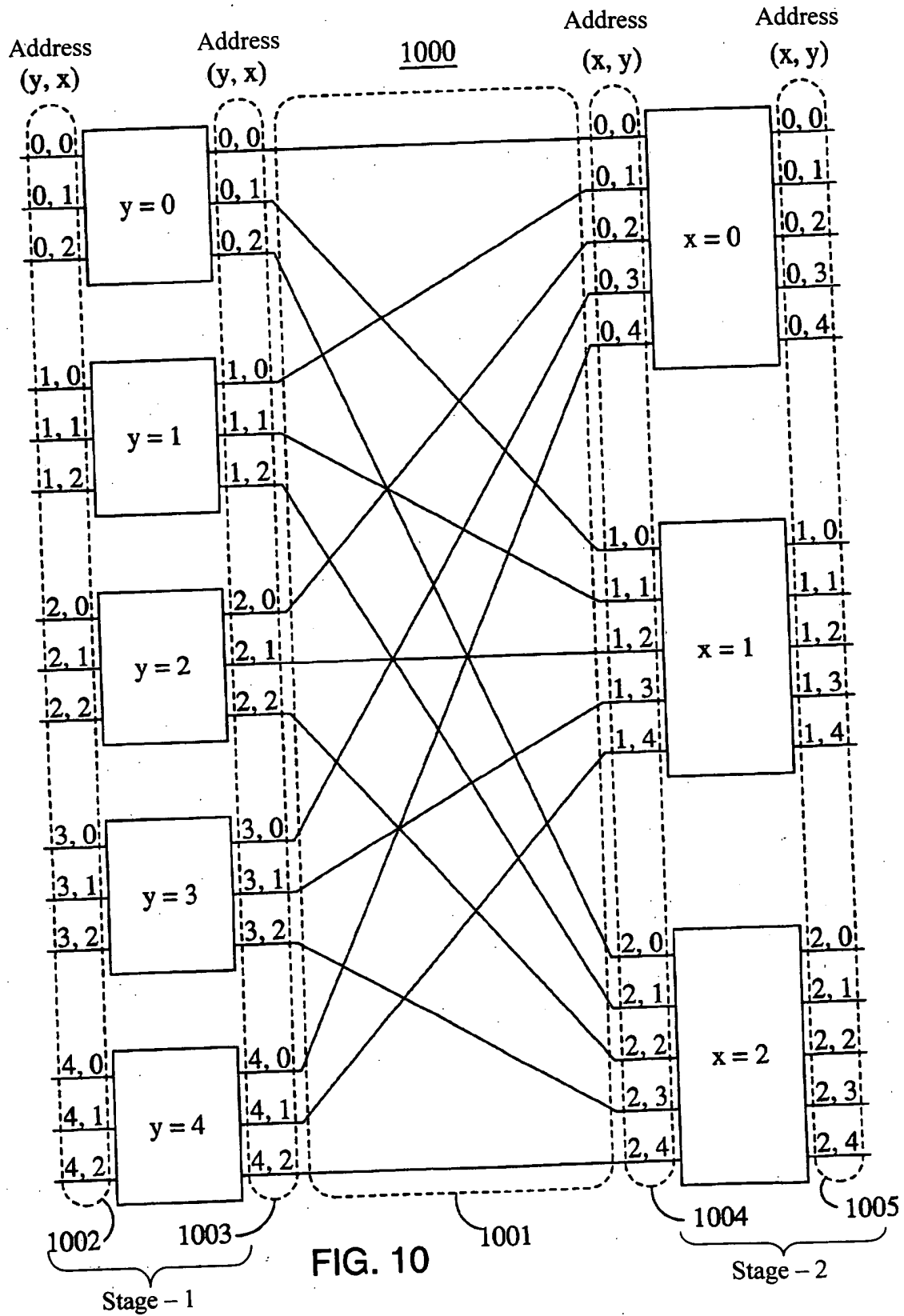


FIG. 9

901 Interstage Exchange

09882761-061501

# REPLACEMENT SHEET



09882761-061501

# REPLACEMENT SHEET

1200 2X Version of 2Stg(3, 5)

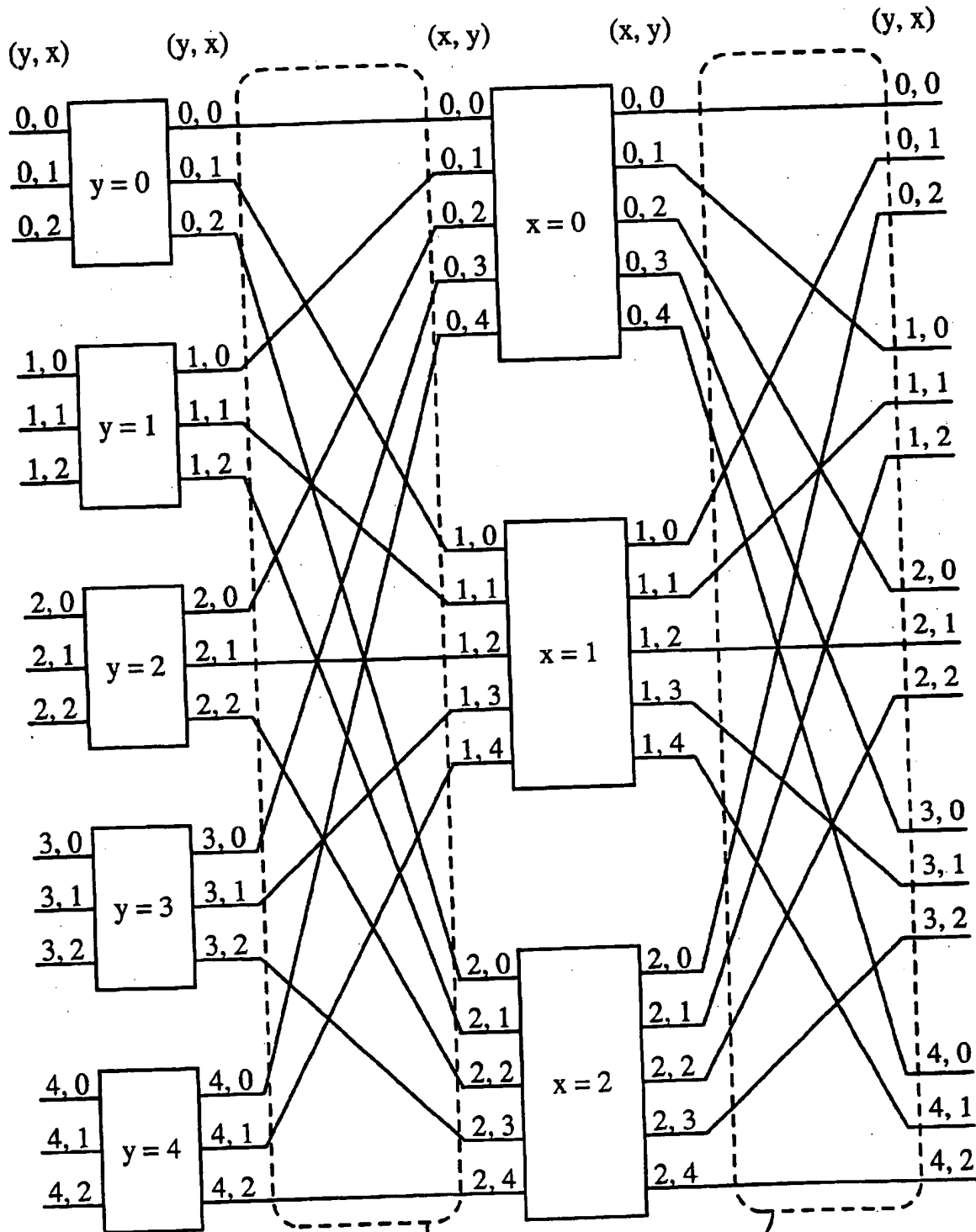


FIG. 12

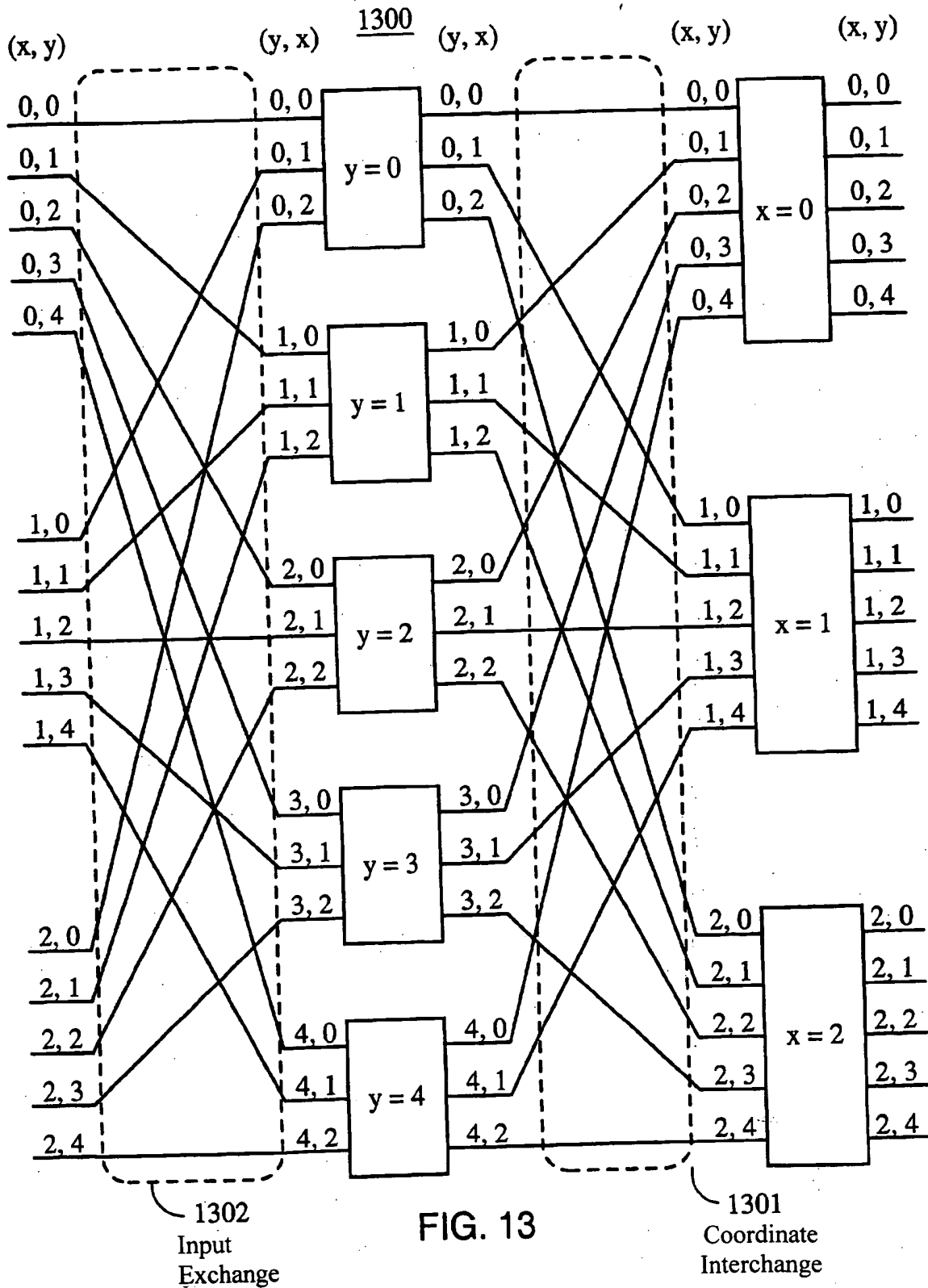
1201  
Coordinate  
Interchange

1202  
Output  
Exchange

09882761-061501

# REPLACEMENT SHEET

X2 Version of 2Stg(3, 5)



# REPLACEMENT SHEET

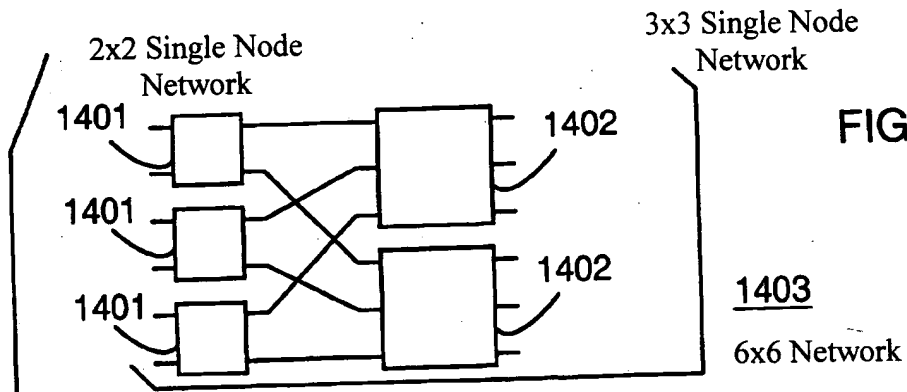
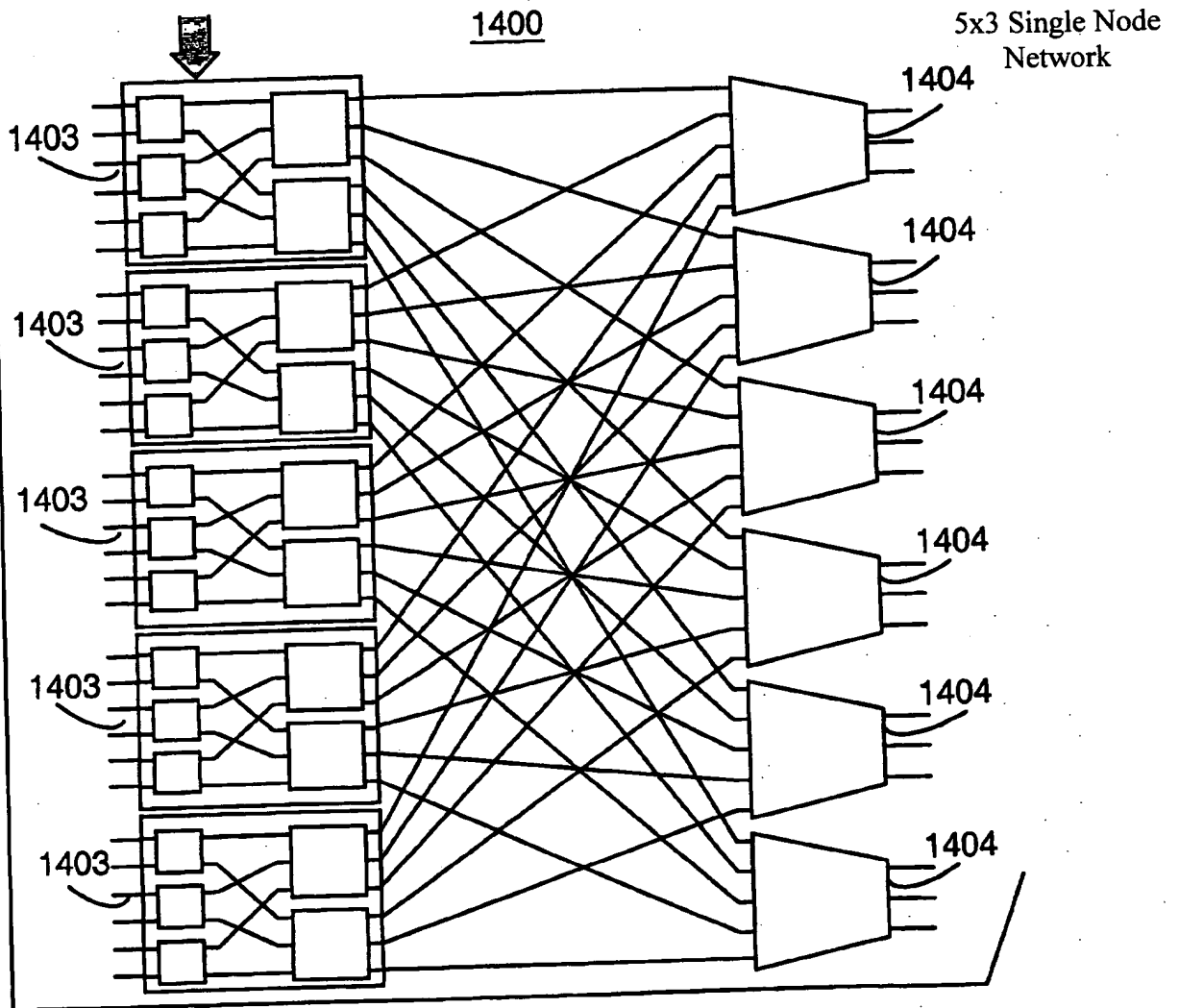


FIG. 14



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REPLACEMENT  
SHEET

09882761.061501  
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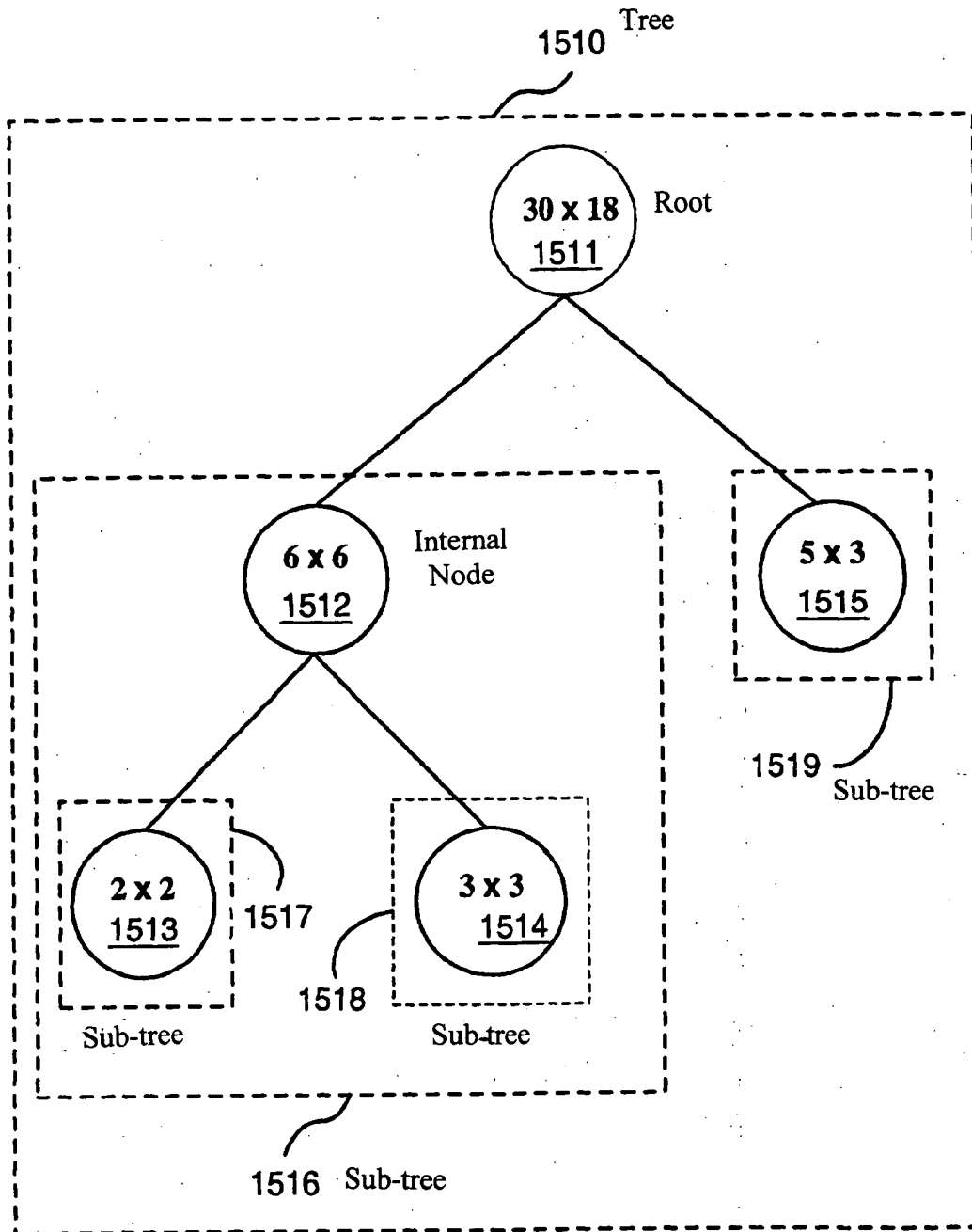
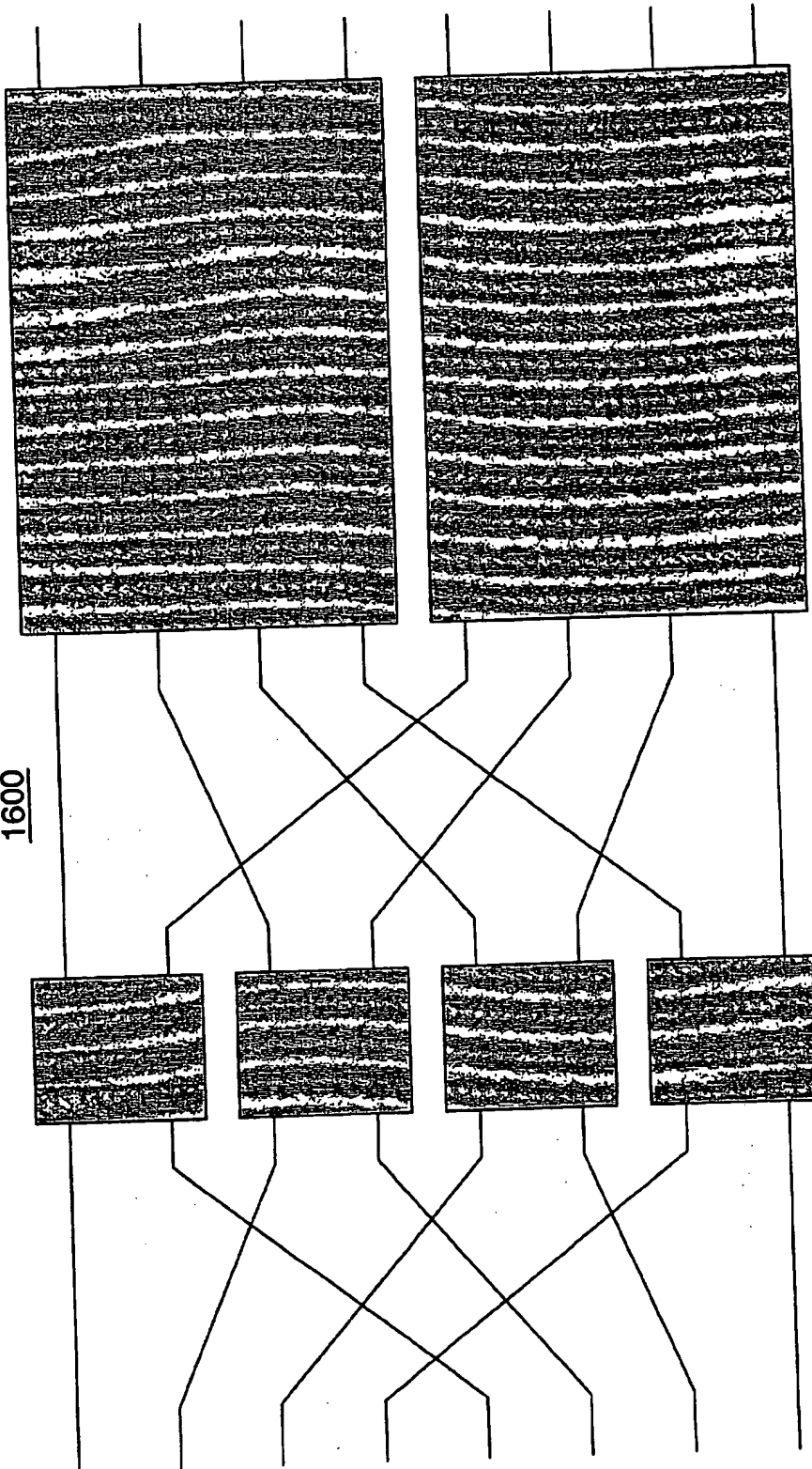


FIG. 15

105190 19228860

8x8 3-Stage Network

1600



1602

4x4 Network

FIG. 16

1601

2x2 Network



105190-1928860

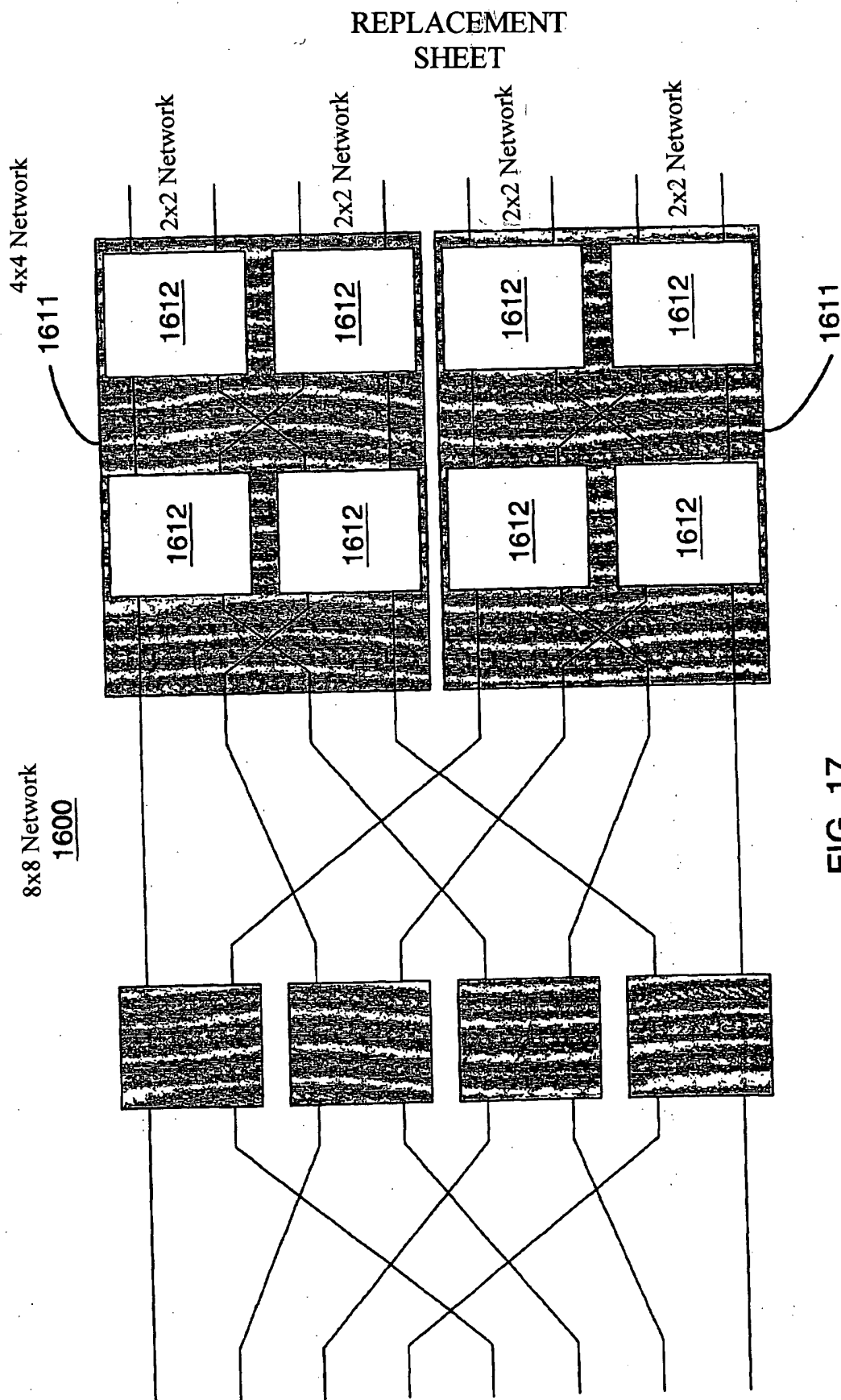


FIG. 17

FOI 90-19723860

# REPLACEMENT SHEET

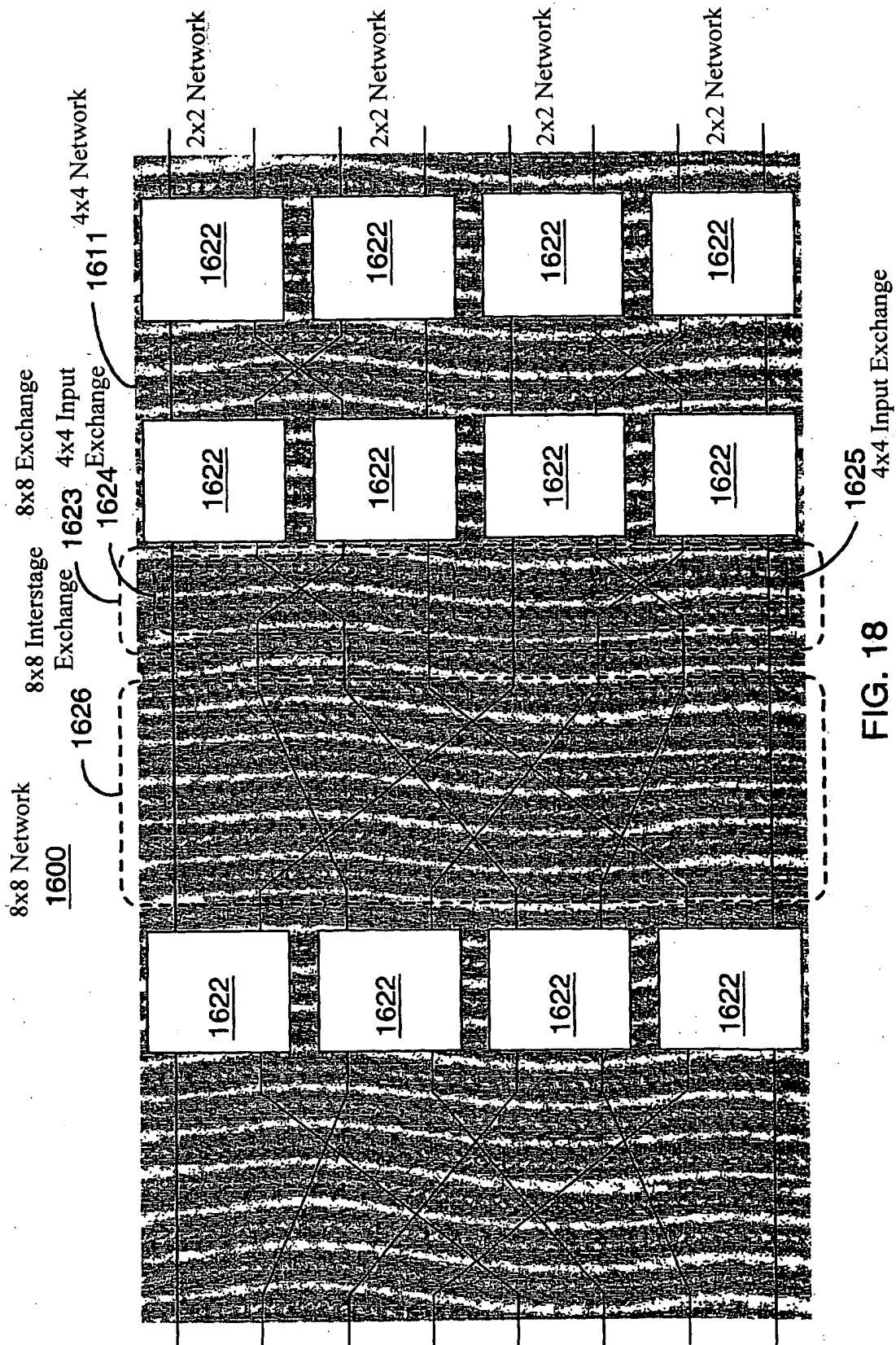


FIG. 18

REPLACEMENT  
SHEET

POST 90-19428860

8x8 Network

1600

8x8 Exchange

1631

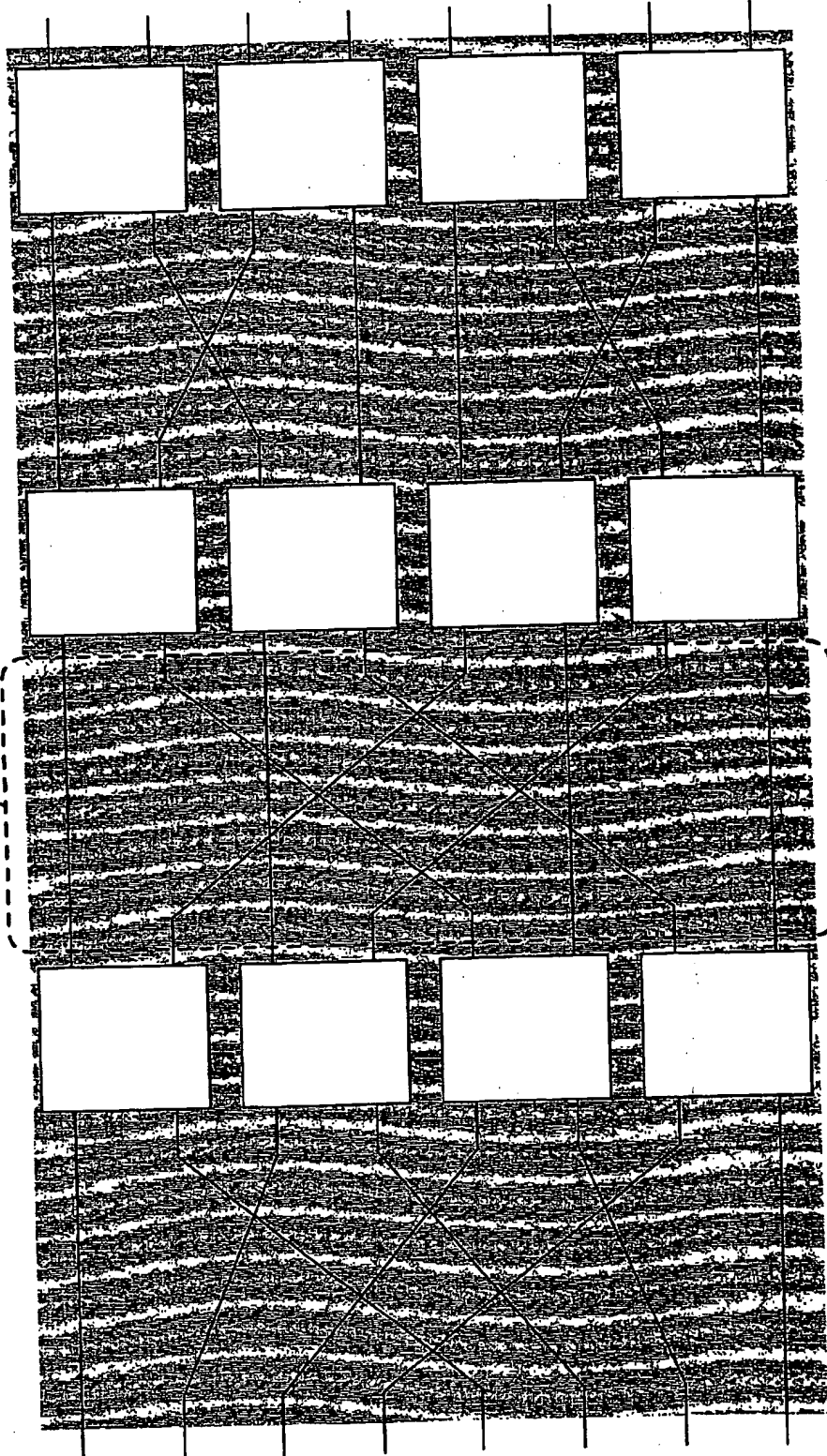


FIG. 19

# REPLACEMENT SHEET

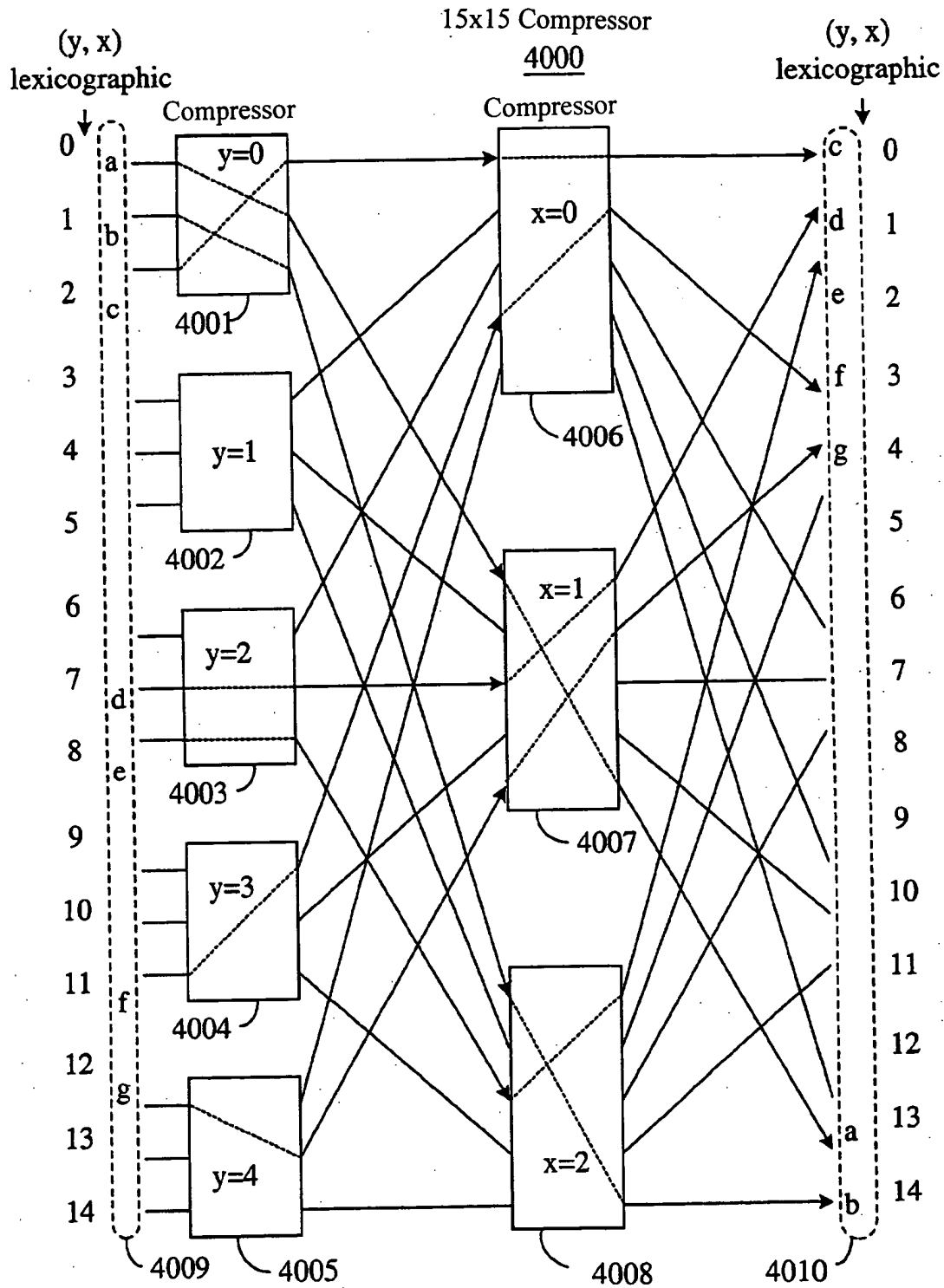
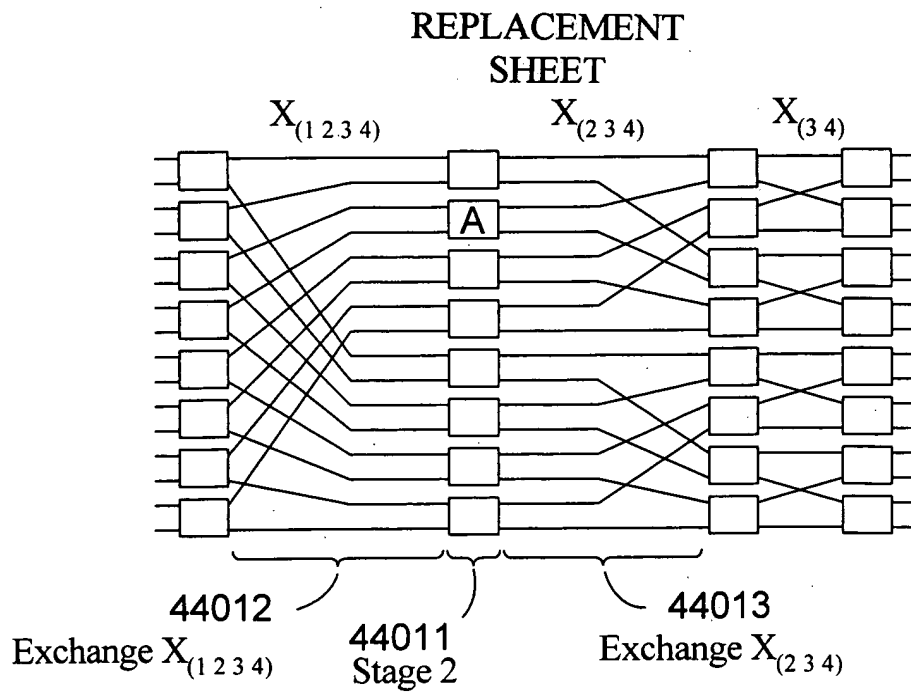
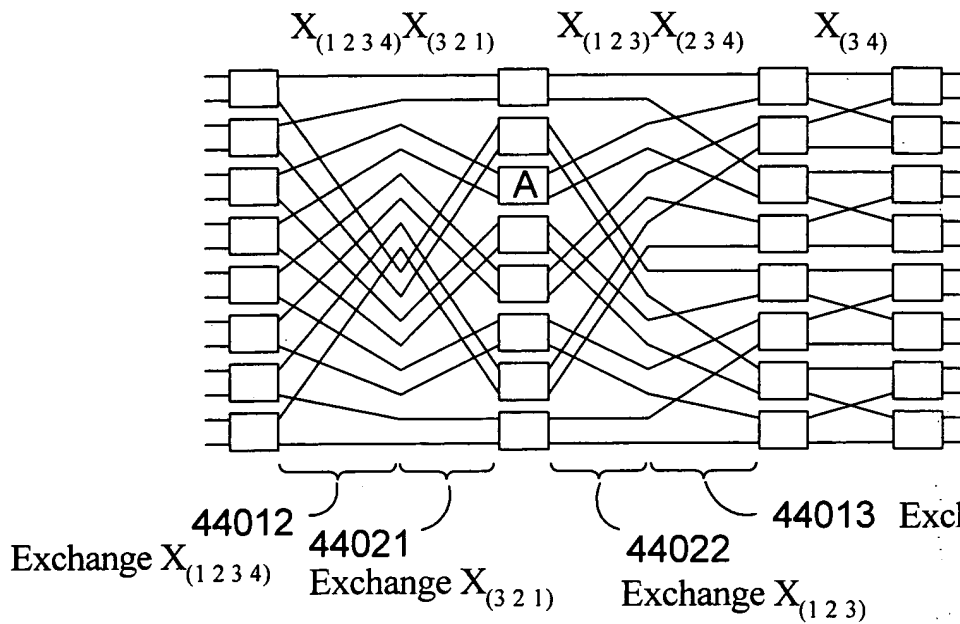


FIG. 40



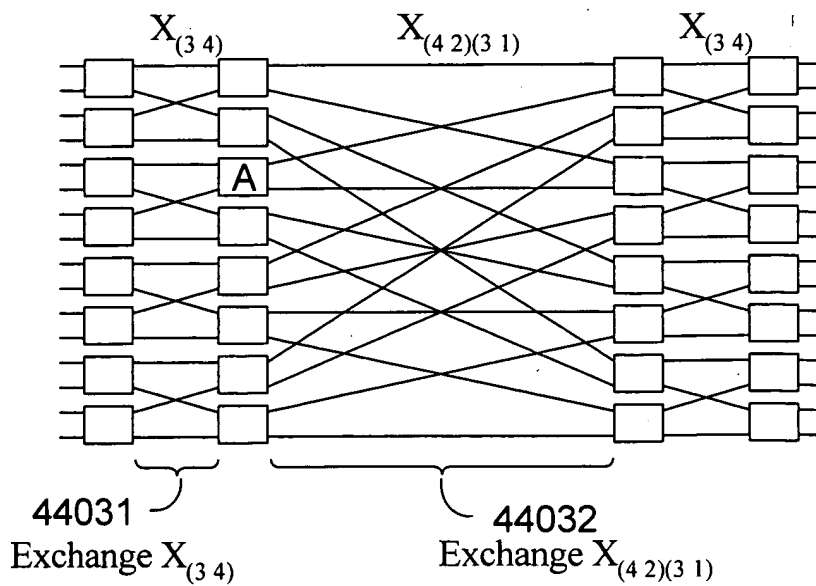
44010  
16x16 Baseline Network

FIG. 44A



44020  
Rearranged Network  
before Simplification

FIG. 44B



44030  
Rearranged Network  
after Simplification

FIG. 44C

4700

Equivalence requiring the  
match of I/O exchanges  
( $\langle \Leftarrow \Rightarrow \rangle$  common trace and guide  
among the networks)

Equivalence requiring the  
match of input exchange only  
( $\langle \Leftarrow \Rightarrow \Rightarrow \rangle$  common trace among  
the networks)

Equivalence requiring the  
match of output exchange only  
( $\langle \Leftarrow \Rightarrow \Rightarrow \rangle$  common guide among  
the networks)

Equivalence without requiring the  
match of I/O exchanges

$\langle \Leftarrow \Rightarrow \Rightarrow \rangle$  Trace of one network can be changed  
into that of the other by a permutation.  
 $\langle \Leftarrow \Rightarrow \Rightarrow \Rightarrow \rangle$  Guide of one network can be changed  
into that of the other by a permutation

Equivalence  
among bit-  
permuting  
networks  
in stronger  
sense

REPLACEMENT  
SHEET

**FIG. 47**

REPLACEMENT  
SHEET

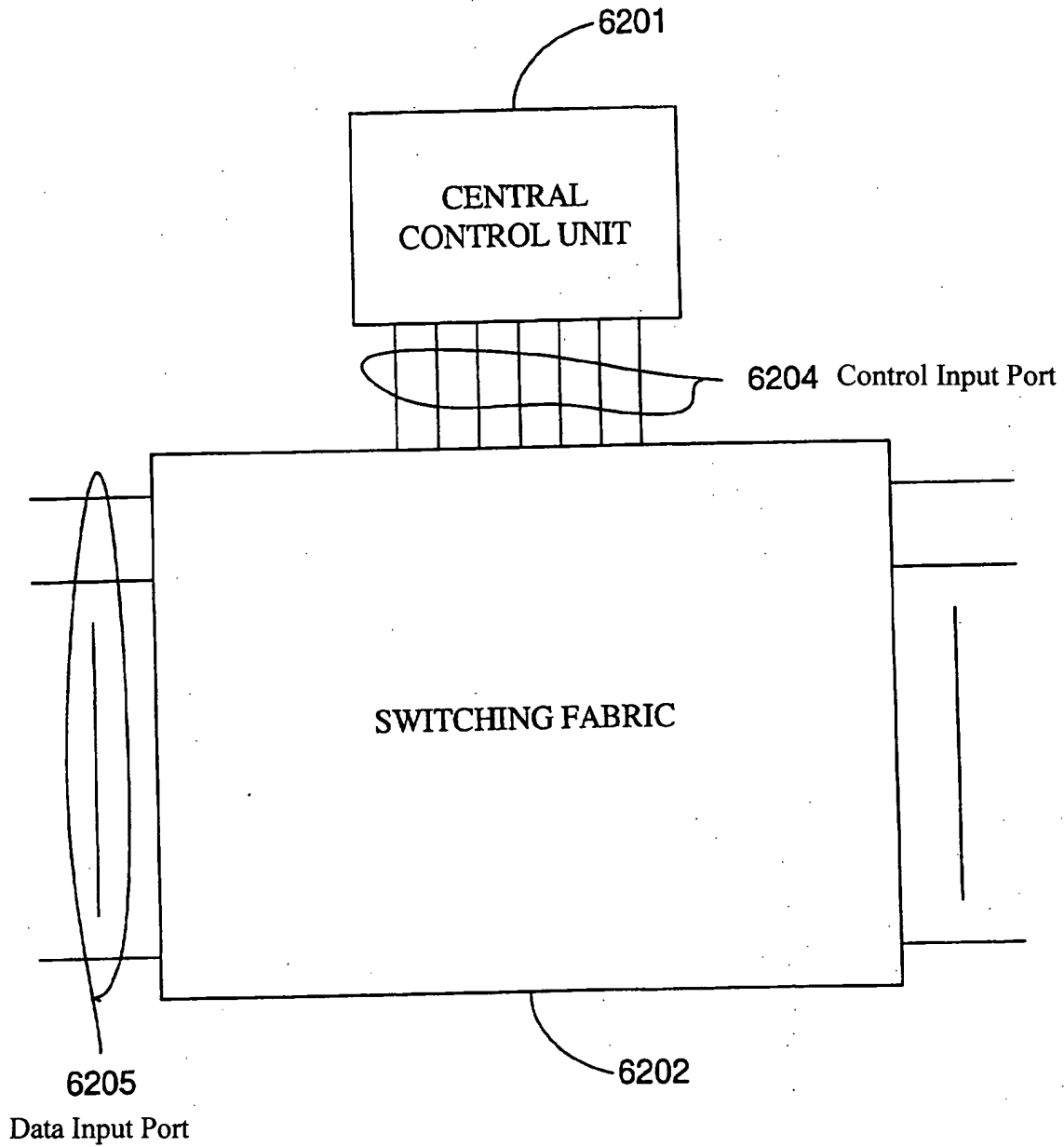


FIG. 62A

REPLACEMENT  
SHEET

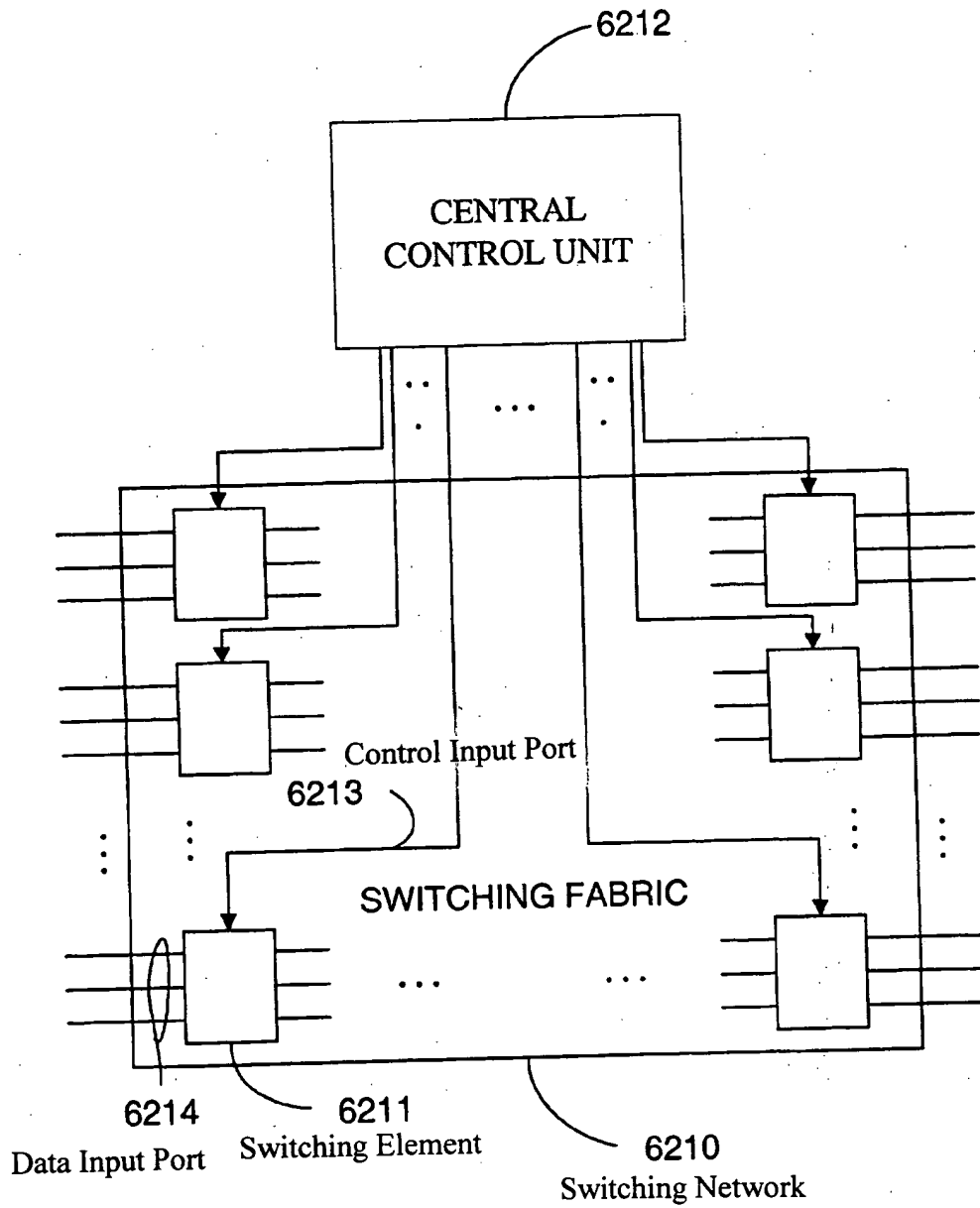


FIG. 62B



105190-1928860

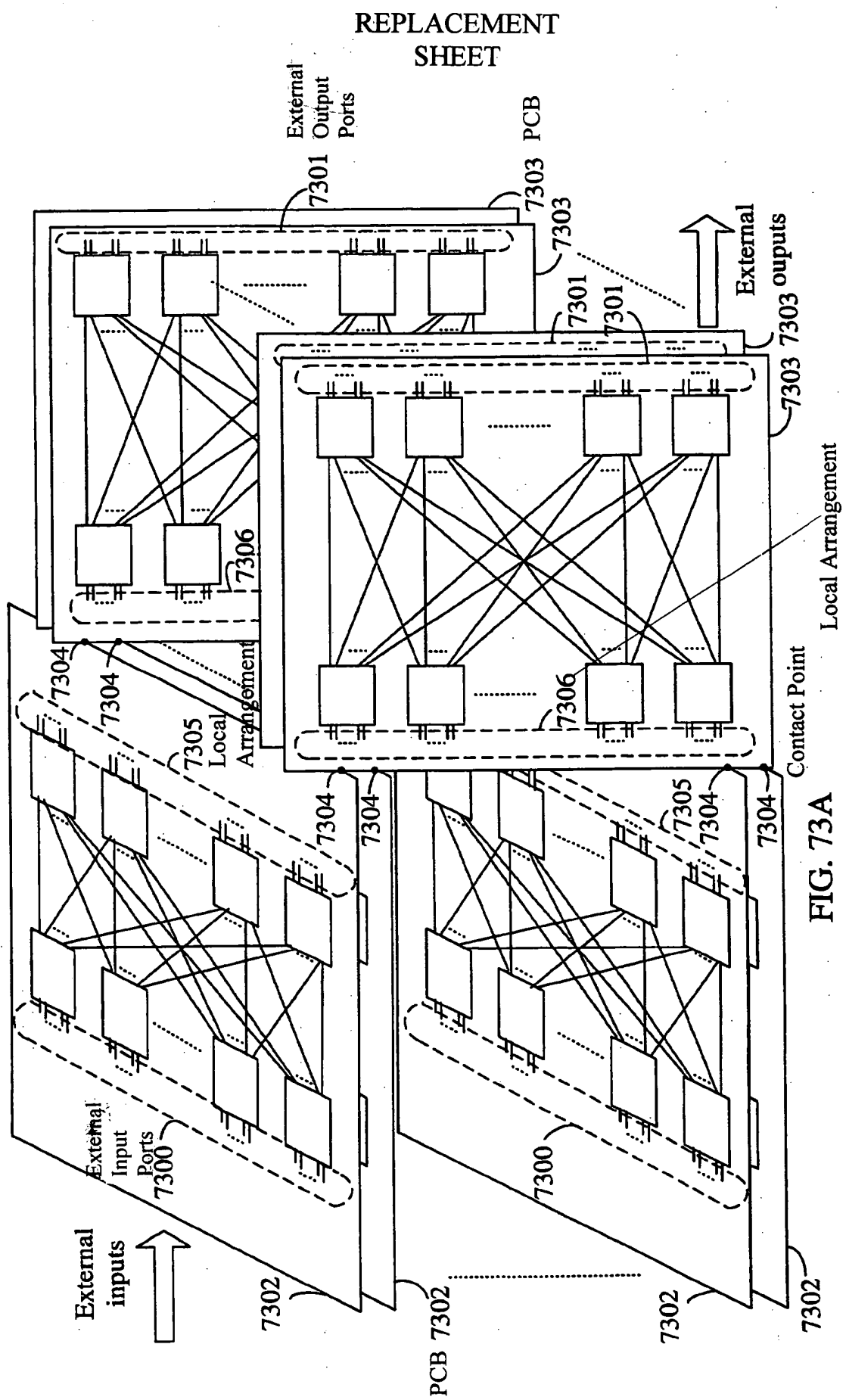


FIG. 73A

T05T90-19428860

